

REMARKS

Status of the Claims

Claims 1, 2, 6-11, 14-18, 21 and 24-27 are now present in this application. Claims 1, 10, 11 and 21 are independent.

By this Amendment, claims 1, 10, 11 and 21 have been amended. No new matter is involved.

Reconsideration of this application, as amended, is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1-2, 6-9, 11, 14-18, 21 and 24 are rejected under 35 USC 103(a) as being unpatentable over Shinji et al. (US 6,259,854 B1) in view of Ishikawa et al. (US 5,575,549 A). Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Funamoto et al. (EP 08878720 A) in view of Ishikawa et al. These rejections are respectfully traversed.

The present invention is directed to an auxiliary light source device for a reflective liquid crystal display device which achieves a high light utilization efficiency and improved display characteristics. The device of the present invention includes a light source and a light directing member for directing incident light from the light source toward a reflector, outwardly along an orthogonal direction. The light directing member includes upper and lower surfaces which are disposed parallel to each other, with side surfaces connecting the upper and lower surfaces. In one of the advantageous features of the present invention, the side surface angle between the side surfaces and a line perpendicular to the planar portion is less than 5°. With reference to Fig. 3 of the present application, the angles θ_a and θ_b between the surfaces A and C and between the surfaces B and C, respectively, are less than 5°. Thus, the convex portion of the lower surface, which can alter the incident angle of reflective light to an angle less than 5° is relatively easy to manufacture. Fig. 5 of the present application shows an enlarged view of the lower portion of the light directing member. As shown in Fig. 5, it is preferable that an angle 523 between the side surfaces 515 or 517 and a line perpendicular to surfaces 511 and 513 falls within the range of about between 0° and 10°. Because of the disposition of the side surfaces 515 and 517 of the convex portions relative to the upper and lower surfaces 513 and 511, respectively, which as

defined in claims 1, 10 and 11 has an angle of less than 5°, the light which strikes a side of one of the convex portions is directed downwardly, substantially perpendicular to the reflector 507.

Shinji, the base reference used in this rejection, does not disclose or even remotely suggest the importance of defining the angle of the light-reflecting side walls of a light directing member as defined by the present invention. Moreover, the Shinji reference explicitly teaches away from the present invention in its disclosure in col. 7, lines 34-37, that the trapezoidal pattern advantageously has an angle of between 10° and 30° to achieve a large ray utility factor and to reduce loss. Also, Table 1 of the prior art reference appears to support this disclosure showing, in all of the embodiments, slope angles of 20° to 25°. Significantly, Shinji states, in col. 7, lines 5-13, that when the slope angle is zero degrees or 2 degrees, the scattering reflection efficiency is less than one and is bad even when the height to width ratio is equal to or greater than 0.6, thereby teaching away from using slope angled less than 5 degrees. In fact, Shinji explicitly advocates using slope angles greater than 5 degrees.

Applicant respectfully submits that, in view of the negative teachings present in the Shinji reference, and in view of a total lack of appreciation of the importance of controlling the angles of the side surfaces of the convex portions of the light directing member, it would not be obvious to combine the teachings of the respective references without completely reconstructing the teachings of the references in view of the Applicant's own disclosure.

To the extent that the Office Action indicates that Shinji has built the embodiments where the slope angle is zero degrees and 2 degrees, Applicant submits that this is only speculative conjecture. All that Shinji discloses in this regard is to discuss how bad scattering reflection efficiency is when the slope angles are zero or 2 degrees. This does not constitute an inherent disclosure (i.e., not just possibly disclosed and not just probably disclosed, but necessarily disclosed) of actually constructed physical embodiments. Applicant respectfully submits that it is quite possible, and even probable, that computer simulations were made to serve as the basis for this disclosure. In this regard, Applicant points out that for something to be inherently disclosed, it cannot be just possibly disclosed nor can it be probably disclosed. Rather, it must be necessarily disclosed. See, in this regard, *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) and *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). Moreover, it is well settled that a rejection under 35 U.S.C. § 103 cannot be based on

speculation. See *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). See, also, *In re GPAC, Inc.*, 35 USPQ2d 1116 at 1123 (Fed. Cir. 1995) and *Ex parte Haymond*, 41 USPQ2d 1217 at 1220 (Bd. Pat. App. & Int. 1996).

Accordingly, in view of the above amendments and remarks reconsideration of the rejections and allowance of all of the claims of the present application are respectfully requested.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 08878720 to Funamoto in view of Ishikawa. Also, claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Funamoto in view of Ishikawa, and further in view of Shinji. These rejections are respectfully traversed.

A complete discussion of the Examiner's rejections is set forth in the Office Action, and is not being repeated here.

The Office Action admits that Funamoto does not disclose a slope angle of between zero degrees and 10 degrees, and relies on Shinji to provide that feature.

However, the Office Action fails to make out a *prima facie* case that the claimed invention, which recites a combination of features, including where the slope angle is less than 5 degrees, is disclosed, suggested, or otherwise rendered obvious for reasons discussed above regarding the Shinji disclosure.

Accordingly, reconsideration and withdrawal of these rejections, and allowance of these claims are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

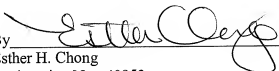
In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert J. Webster, Registration No. 46,472, at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

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Respectfully submitted,

By 

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